

REMARKS

This Amendment responds to the Office Action mailed on June 25, 2007. In the Office Action, the PTO:

- rejected claims 13-20 and 69-85 under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had full possession of the claimed invention;
- rejected claims 13-20 and 69-85 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Gosselin *et al.* (U.S. Patent No. 6,444,652) in combination with Weis *et al.* (WO 96/13512); and
- withdrew objection to drawings and rejections under 35 U.S.C. § 112, second paragraph raised in the first Office Action, dated October 16, 2006.

Claims 13 and 17 are amended by adding recitations that anhydrous acid halide is produced *in situ* by the reaction of an acyl halide with a sub-equivalent amount of a second alcohol. The amendments of claims 13 and 17 are supported by the specification, for example, on page 13, lines 9-11; page 13, lines 21-23; page 25, lines 17-19; and page 26, lines 1-3. Claim 82 is canceled. Claim 83 is amended to depend on claim 13 or 17 instead of the canceled claim 82. No new matter is added by this Amendment. After entry of this Amendment in response to the instant Office Action, the pending claims are: claims 13-20, 69-81 and 83-85.

Response to Response to Rejections Under 35 U.S.C. § 112

Claims 13-20 and 69-85 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had full possession of the claimed invention. The PTO asserted that the specification as originally filed does not provide adequate support for the process step (c) in claim 13 because allegedly the “L-1-methoxy-3,5-ditoluoyl-deoxyribose has all of its hydroxyl groups protected, it cannot generate the acid halide (e.g., HC1) *in situ* as recited.” See Office Action, dated June 25, 2007, on page 3, in the second paragraph.

Claim 82 is canceled. Claims 13 is amended by adding the recitation that the anhydrous acid halide is produced *in situ* by the reaction of an acyl halide with a sub-equivalent amount of a second alcohol. After the amendment, the anhydrous acid halide (e.g., HC1) can be generated *in situ* even if L-1-methoxy-3,5-ditoluoyl-deoxyribose has all of its hydroxyl groups protected because it is well known that acyl halides react with alcohols to generate acid halides (e.g., HC1). Therefore, the specification as originally filed does provide adequate support for the process step (c) in currently amended claim 13.

In view of the above comments, Applicant respectfully requests withdrawal of the rejection of claims 13-20, 69-81 and 83-85 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had full possession of the claimed invention.

Response to Rejections Under 35 U.S.C. § 103(a)

Claims 13-20 and 69-85 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Gosselin *et al.* (U.S. Patent No. 6,444,652) in combination with Weis *et al.* (WO 96/13512). The PTO alleged that Gosselin *et al.* in cols. 25-26 discloses the reaction of silylated uracil with a protected ribose sugar to give the nucleoside 10 where the protected ribose sugar is prepared according to Reaction 1 in col. 19, and therefore, the reaction steps of forming 1-O-alkyl-ribose by reaction of a ribose with methanol and protection of the remaining free hydroxyl groups and its coupling to uracil via the silylated derivative and subsequent deprotection of the protecting groups is taught by Gosselin. *See* page 5 of the Office Action of June 25, 2007.

The PTO also alleged that Weis *et al.* in Scheme IV on page 20 teaches the conversion of structure 55 (a protected deoxyribose) to structure 56 (the corresponding 1-chloro derivative) by added HCl; and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute HCl with another source of halogen like an acyl halide. *See* page 6 of the Office Action of June 25, 2007.

The U.S. Supreme Court has recently addressed the test for obviousness under 35 U.S.C. § 103. *KSR International Co. v. Teleflex Inc.*, No. 04-1350, 550 U.S. __, 127 S. Ct. 1727 (2007). In *KSR*, the Supreme Court rejected the Federal Circuit's *rigid application* of the "teaching, suggestion, motivation" test ("the TSM test") in determining obviousness in the particular case in question. *Id.*, *slip op.* p. 11. According to the Supreme Court, the

correct standard to apply is set forth in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966). *Id.*, *slip op.* p. 2. However, the *KSR* decision indicated that while the TSM test is not the sole method for determining obviousness, it may still be a factor. *Id. slip op.* p. 14 (“When it first established [the TSM test], the Court...captured a helpful insight.”). Indeed, on May 3, 2007, the Deputy Commissioner of Patents circulated a memorandum (“USPTO Memorandum,” copy enclosed) to the Technology Center Directors pointing out that the TSM test was not completely abolished in *KSR*.

The *Graham* factual inquiries, which establish a guide for determining obviousness, are: (1) determine the scope and contents of the prior art; (2) ascertain the differences between the prior art and the claims at issue; (3) resolve the level of ordinary skill in the pertinent art; and (4) evaluate any evidence of secondary considerations. *KSR*, *slip op.* p. 2 (*citing Graham*, 383 U.S. at 15-17).

Claim 82 is canceled. Claims 13 is amended by adding the recitation that the anhydrous acid halide is produced *in situ* by the reaction of an acyl halide with a sub-equivalent amount of a second alcohol. The instant claims are not obvious because the references cited by the Examiner differ substantially from the subject matter of the instant claims because Gosselin *et al.* and Weis *et al.*, individually or in combination, do not teach or suggest all the claim elements of currently amended claims 13 and 17, particularly the “anhydrous acid halide” in step (c) of claims 13 and 17 is generated *in situ* from the reaction of an acyl halide with a sub-equivalent amount of an alcohol for the following reasons.

First, Gosselin *et al.* in Reaction 1 at col. 19 does not disclose the conversion of the 1-O-alkyl-ribose to a halide before reacting it with a silylated base because none of the reaction intermediates 141, 142 and product 143 is a halide. Further, Gosselin *et al.* does not teach or suggest an “anhydrous acid halide” can be produced by the reaction of an acyl halide with an alcohol, much less it is produced *in situ* or a sub-equivalent amount of the alcohol is used.

Second, Weis *et al.* at page 20 merely discloses that structure 55 (a protected deoxyribose) is converted to structure 56 (the corresponding 1-chloro derivative) by added HCl. Weis *et al.* does not teach or disclose that the acid halide in step (c) of claim 13 or 17 can be produced by the reaction of an acyl halide with an alcohol, much less it is produced *in situ* or a sub-equivalent amount of the alcohol is used.

Third, neither Weis *et al.* nor Gosselin *et al.* discloses that the acid halide is anhydrous. The anhydrous reaction conditions offer many unexpected benefits, such as the stereoselective substitution may be more complete; the product may crystallize more readily; the yield may be usually higher; or the product may be more stable. *See* specification at page 13, lines 24-30; and page 26, lines 3-10.

Further, the prior art provides no reason to modify the teachings of Weis *et al.* and Gosselin *et al.*, individually or in combination, to arrive at the claimed subject matter.

For the above reasons, claims 13 and 17 and thus claims 14-16, 18-20 and 69-81 and 83-85, which depends on claim 13 or 17, are therefore not obvious over Gosselin *et al.* in combination with Weis *et al.*

In view of the above comments, Applicants respectfully request withdrawal of the rejection of claims 13-20, 69-81 and 83-85 under 35 U.S.C. 103(a) as being allegedly unpatentable over Gosselin *et al.* in combination with Weis *et al.*

CONCLUSION

In light of the above amendments and remarks, the Applicants respectfully request that the PTO reconsider this application with a view towards allowance.

Please apply fees for a Notice of Appeal (\$500.00) to Jones Day Deposit Account No. 50-3013 (referencing order no. 417451-999010). No other fee is believed due for this submission. However, if any fees are required for the entry of this paper or to avoid abandonment of this application, please charge the required fees to Jones Day Deposit Account No. 50-3013.

The Examiner is invited to call the undersigned attorney at (650) 739-3983, if a telephone call could help resolve any remaining items.

Respectfully submitted,

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